REMARKS

This is in response to the Office Action mailed on February 23, 2007. In the Office Action, all claims 1-25 were rejected. With this amendment, claims 1 and 14 are amended; claims 13 and 25 are cancelled; and the remaining claims are unchanged in the application.

Section Four of the Office Action indicated that independent claims 1-13 were rejected under 35 U.S.C. §101 because the claimed invention was allegedly directed to non-statutory subject matter. More specifically, the Office Action indicated that, "The claimed subject matter provides for removing one of the two matching strings from the log only when it is determined that the two strings match." Applicants believe that the rejection of independent claim 1 is based upon the fact that should the determining function not indicate any matches, then there will not be any removals of any strings. It appears that it is the position of the Office Action that such a situation would not provide a useful, concrete and tangible result. In response, Applicants have amended independent claim 1 to specifically recite identifying two strings that match each other after the compression operation and removing one of the two matching strings from the log. Accordingly, the claim now only reads on the situation where a match occurs. Accordingly, based upon Applicants' understanding of the rejection as set forth in Section Four of the Office Action, Applicants respectfully submit that amended independent claim 1 now recites statutory subject matter.

Section Five of the Office Action indicated that independent claims 1 and 14, among others, were rejected under 35 U.S.C. §103(a) as being unpatetable over Warthen (U.S. Patent 6,584,464) in view of Kapur et al. (U.S. Patent Publication 2004/0199498 A1 – hereinafter Kapur). Applicants have amended independent claims 1 and 14 in order to better distinguish those claims from the hypothetical combination of Warthen and Kapur. Specifically, independent claim 1 has been amended to recite the feature previously set forth in dependent claim 13, which claim is now canceled. Similarly, independent claim 14 has been amended to recite the feature previously set forth in dependent claim 25, which is now canceled. Amended independent claims 1 and 14 now provide training a statistical process with the compressed log.

Page Seven of the Office Action asserted that Warthen/Kapur discloses "the method of claim 1, and further comprising training a statistical process with the compressed log (Kapur: see [0008])." With respect to the same feature in independent claim 14, Page Ten of the Office Action refers to the same portion of Kapur; namely paragraph 0008. However, paragraph 0008 of Kapur simply provides that "According to the invention, a query processing engine decomposes queries into one or more constituent units per query using statistical methods." Accordingly, statistical methods are employed to process queries. This is wholly unlike utilizing a compressed query log to train a statistical process. As can be seen further in paragraph 0035 of the Kapur reference, "The query log files (query logs) are processed by query engine 300 to extract units using statistical methods such as may be used in information theory or concepts such as mutual information." Again, the processing generates units using statistical methods, but does not teach or suggest the training a statistical process based upon the query logs. Further still, in paragraph 0035, Kapur provides, "Query processing engine 300 processes the various query logs (and queries) and generates units and associated statistics therefrom." This passage appears to be the closest that Kapur comes to supporting the assertion of the Office Action with respect to training a statistical process, but most notably simply does not teach or suggest the actual training of a statistical process. Mere utilization of statistical methods, and/or deriving statistics from analysis, is not the same as training a statistical process. Accordingly, Applicants respectfully submit that amended independent claims 1 and 14 are allowable over the art of record, taken alone or in combination. Further, Applicants respectfully submit that dependent claims 2-12 and 15-24 are allowable as well by virtue of their dependency, either directly or indirectly, from allowable independent claims.

Notwithstanding the important reasons set forth above with respect to the allowability of independent claims 1 and 14, Applicants respectfully submit that another important feature set forth in the dependent claims has not been properly considered. Specifically, dependent claims 7 and 19 each recite the feature wherein the at least one compression operation is subsumption. As set forth on page 13 of Applicants' specification,

> "The highest degree of query log compression is referred to herein as subsumption. This is a process where individual queries are scanned or otherwise

processed to identify similarities to such an extent that a single word difference between a pair of queries can be evaluated to determine the degree to which the single word changes the meaning of the query."

Pages 13 and 14 of the specification provide an example of subsumption wherein two queries "change mouse speed" and "change mouse click speed" are subsumed. As a part of the analysis, the word "click" is evaluated and determined statistically to be unlikely to distinguish two separate intents, via global examination of the entire log vocabulary. As set forth on page 13 of Applicants' specification, "This is not a trivial process." With respect to this feature, Pages 6 and 9 of the Office Action, refer with respect to claims 7 and 19, respectfully, that Kapur teaches subsumption beginning on paragraph 0039 and continuing through paragraph 0048. However, that portion of Kapur appears to be related to the generation of additional units from queries. In fact, as indicated in paragraph 0039, Kapur appears to teach the opposite of subsumption. Specifically, Kapur provides, "An extension of a unit is a larger unit that contains all of the units in the first unit. For example, 'new york city' could be an extension of 'new york'." (Emphasis added). Thus, Kapur is adding words to create units. However, it is also important to note that the generation of units in Kapur is not occurring as an operation upon a query log. Accordingly, not only is the unit generation of Kapur not part of query compression, even if it were, it would appear to provide the opposite of the subsumption features set forth in dependent claims 7 and 19. Accordingly, Applicants respectfully submit that dependent claims 7 and 19 are allowable independently of the claims from which they depend. To the extent that this rejection may be maintained, Applicants respectfully request that a detailed explanation showing how the reference provides subsumption in accordance with the meaning set forth in Applicants' specification be provided.

In conclusion, Applicants respectfully submit that the entire application is now in condition for allowance. Reconsideration and favorable action are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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